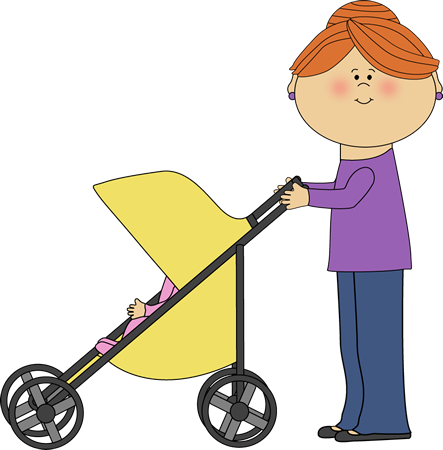
 Science in a Bag – Teacher Page 

Motion

Grade Level:

Kindergarten

Standards:

GLE 0007.11.1 Explore different ways that objects move.

Check for Understanding 0007.11.1 Use a variety of objects to demonstrate different types of movement. (e.g., straight line/zigzag, backwards/forward, side to side, in circles, fast/slow).

Task Objective:

The student will be able to identify the different way objects move.

Explanation

* In this activity students will learn how different objects move. Students will observe objects provided to them. The students will work in groups to identify how each of the objects move and describe it. Students should roll, bounce, push, pull, squeeze, and shake objects and describe the movements they make.
* The students will be able to describe the location of the object and the direction the object moves.
* Students will understand that if an object is at rest there is still force acting on that object.
* Students will understand what gravity is.

Academic Vocabulary

* Direction- a line or course on which something moves.
* Straight- not curved or bent.
* Zigzag- a line with a series of short, sharp turns or angles.
* Shake- short and quick movements up and down or side to side.
* Roll- to move forward with an easy and continuous motion.
* Bounce- to move in one direction hit a surface and quickly move in a different and usually opposite direction.
* Push- to use force to move an object forward or away from you.
* Pull- to hold onto and move an object in a particular direction usually toward yourself.
* Spin- to turn or cause an object to turn around repeatedly.
* Twist- to turn an object in a circular motion with your hand.
* Forward- in a direction toward the front.
* Backward- to go or do something in reverse.
* Circular- having a round form.
* Friction- when two objects touch.
* Gravity- Earth’s force that pulls all objects down.
* Motion- the act of moving.
* Force- a push or a pull

Common Misconceptions

* The location of an object can be described by stating its distance from a given point, ignoring direction.
* If an object is at rest no forces are acting on the object.
* The only natural motion is for an object to be at rest.

Real World Connection

Students will be able to come up with other objects that they want to observe to see which motions those objects can go in.

**Connections Across the Curriculum**

**Math**

CCSS.Math.Content.KMD.B.3

Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

* Students can identify how many objects can be rolled, bounced, spun, shook, twisted, pushed, and pulled. Students could make a chart to show how many objects could be rolled, bounced, spun, shook, twisted, pushed, and pulled.

CCSS.Math.Content.K.CC.C.6

Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.

* Students could compare how many objects are under the category push to how many objects are under the category pull and see if it is greater than, less than, or equal to.

**Writing**

CCSS.ELA-LIITERACY.W.K.8

With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

* Students can think back to playing with their own personal toys at home and write what kind of motion they make.

**References**

(These include references for the activity, content understanding, etc. You can select your activity from classroom resource books, NSTA resources, the internet, or other sources. Be sure to include references for your sources.)

**Academic vocabulary words**

<http://www.spellingcity.com/kindergarten-science-vocabulafry.html>

**Academic vocabulary definitions**

<http://www.merriam-webster.com/>

**Images**

Woman pushing stroller

<https://www.google.com/search?q=clipart+pulling+a+wagon&biw=1600&bih=765&tbm=isch&tbo=u&source=univ&sa=X&ei=NCrcVJ2EM-_bsATQqoGYDg&ved=0CB0QsAQ#tbm=isch&q=clipart+push&imgdii=_>

Boy pulling wagon

<https://www.google.com/search?q=clipart+pulling+a+wagon&biw=1600&bih=765&tbm=isch&tbo=u&source=univ&sa=X&ei=NCrcVJ2EM-_bsATQqoGYDg&ved=0CB0QsAQ#imgdii=_>

Common Misconceptions

<https://curriculum.wiki.dublinschools.net/Grade+1+Science+Common+Misconceptions>

 Science in a Bag – Student Page 

Identifying Motion

Grade Level

Kindergarten

Standards

GLE 0007.11.1 Explore different ways that objects move.

Task Objective

The learner will be able to classify what type of motions objects make. Students will be able to describe objects that roll, spin, bounce, shake, push, pull, and twist.

Materials Needed



* Toy truck
* Bouncy ball
* Balloon pump
* Pencil
* Pencil sharpener
* Tambourine
* Pig toy
* Fish toy
* Toy golf ball

Procedures

1. In small groups take out your vocabulary pictures and place them face up on your desk.
2. Work together to figure out and describe in your own words how each object moves.
3. After your vocabulary picture match is done get in small groups and open the box of toys on your desk and talk about the way these objects move.
4. Help each other figure out if certain objects can move in more than one way.
5. After you have identified and described how each object can move in your group go back to your desk.
6. Take out your vocabulary words and pictures card sort and place them face up on your desk.
7. On your own match each picture to the correct word that describes how that object moves.
8. Once you are finished with the card sort raise your hand and have your teacher to check and make sure you matched the correct words with the correct picture.
9. Once you have correctly matched to picture to the vocabulary word paste them into your interactive notebooks.
10. On your own complete the worksheet about motion on your desk.
11. After the worksheet is completed turn it into your teacher.
12. Once you have completed the worksheet place all of the toys back into the box.

Academic Vocabulary

• Direction- a line or course on which something moves.

• Straight- not curved or bent.

• Zigzag- a line with a series of short, sharp turns or angles.

• Shake- short and quick movements up and down or side to side.

• Roll- to move forward with an easy and continuous motion.

• Bounce- to move in one direction hit a surface and quickly move in a different and usually opposite direction.

• Push- to use force to move an object forward or away from you.

• Pull- to hold onto and move an object in a particular direction usually toward yourself.

• Spin- to turn or cause an object to turn around repeatedly.

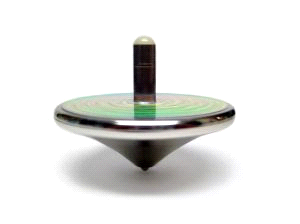
• Twist- to turn an object in a circular motion with your hand.

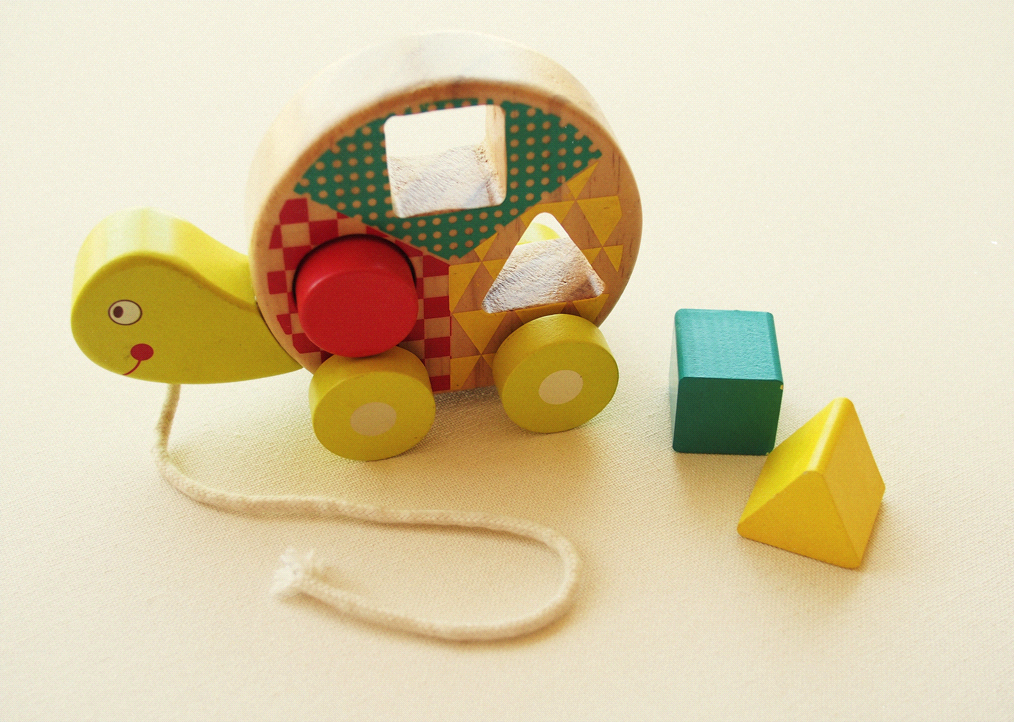
Assessment

Students will complete a multiple choice worksheet to be turned in to the teacher for a grade.

Clean-up

Each group of students should put all toys back into the toy box after they have properly identified what each object’s motion is. Also each individual student should put their vocabulary match up cards back into their bags and place them into their backpacks to take home for practice.

 Shake Push

Pull Spin Bounce

Match each picture to the correct vocabulary word.

Shake - short and quick movements up and down or side to side.

Bounce - to move in one direction hit a surface and quickly move in a different and usually opposite direction.

Push - to use force to move an object forward or away from you.

Pull - to hold onto and move an object in a particular direction usually toward yourself.

Spin - to turn or cause an object to turn around repeatedly.

Name:

Circle the correct answer that describes how the object in the picture moves.

1.)



A. Bounce

B. Twist

C. Pull

2.)



A. Push

B. Pull

C. Spin

3.)



A. Twist

B. Pull

C. Push

4.)



A. Spin

B. Roll

C. Push

5.)



A. Roll

B. Twist

C. Shake

6.)



A. Bounce

B. Shake

C. Roll